



Transit Coating, Peelable

1 Scope

1.1 Material Description. This specification covers the requirements for coatings designed to protect exterior paint from damage caused by iron particles that fall on the vehicle during rail shipment and other environmental damage. These coatings are liquids applied by spray application. They are essentially air dried, but may require supplemental heating.

1.2 Symbols. Not applicable.

1.3 Applicability. Vehicle bodies and parts.

2 References

Note: Only the latest approved standards are applicable unless otherwise specified.

2.1 External Standards/Specifications.

ASTM D3960	ISO 2811	SAE J2527
ASTM D4212	ISO 3251	

2.2 GM Standards/Specifications.

GMW3002	GMW3011	GMW14729	GMW16170
GMW3008	GMW3059	GMW14873	GMW16625

2.3 Additional References.

TMC003 Material Safety Data Sheet guidance documents (available at www.gmsupplypower.com).

3 Requirements

Transit coating must be submitted along with a corresponding overspray remover as a complete system. There must be no damage to any current production paints or any other components of the vehicle (glass, rubber, plastics, etc.) from contact with properly applied coating or remover.

3.1 Material Requirements. As part of the initial submission package, the following information must be provided. Complete material identification by:

- Code
- Batch
- General Chemical Composition
- Physical Description

3.1.1 Physical Constants. Formula values for weight and volume solids. Analytical values for Volume Organic Content (VOC) per ASTM D3960, percent (%) weight solids (ISO 3251), and density (ISO 2811). Application viscosity (ASTM D4212) and pH.

3.1.2 Material Safety Data Sheets.

3.1.3 Film build range and target film build plus the recommended method for measuring the films for testing and quality control.

Note: Film build target and range is supplier specified. Maximum film thickness is the thickest film that can be removed easily after six (6) months (1200 kJ at 340 nm) Florida exposure.

3.1.4 Document material disposal requirements and all other health and safety concerns/control methods.

3.1.5 VOC Limits. Product must be no more than 4.8 g/L VOC (0.04 lb/gal VOC) of coating is received.

3.1.6 Health and Safety. Both the transit coating and the transit coating remover must meet all local and federal standards for air quality and waste water treatment.

3.2 Processing Requirements. The product must have sufficient latitude to perform in the range of conditions typically encountered in an automotive production facility. The following data must be submitted as part of the original submission package.

- Recommended application equipment.
- Film build as a function of gun distance versus viscosity.
- Drying time as a function of film build, air temperature and relative humidity.
- Define oven conditions if coating requires supplemental heating.
- Define conditions that allow the coating to withstand a light rain after one (1) minute of drying time.

3.2.1 Test. Pour 1 L of water on a coated 10 cm × 30 cm (4 in × 12 in) panel at a rate of 10 mL/s at an angle of 45 degrees. Check coating integrity, finger imprint sensitivity and recovery time to a hard film.

3.2.2 Removability. Film should be easily peeled off after exposure without marring the paint surface.

3.3 Performance Requirements. Performance is measured by protection from environmental contaminants at the low end of film build and ease of removal after environmental conditioning at the high end of the film build range. See Table 1.

3.3.1 There must be no cracking, hazing, discoloration, distortion, and adhesion loss to the paint finish or pronounced edge effects caused by the transit coating film. The degree of protection is measured by a subjective scale.

Where:

- 0 = No effect etching from contaminants
- 1 = Trace/slight effect
- 2 = Moderate effect
- 3 = Pronounced/severe effect

3.3.2 Moisture Resistance (GMW14729). No loss of adhesion, film integrity or softening after 96 h exposure at 100% relative humidity, 38 °C plus a 24 h recovery period. Measure adhesion peel strength.

3.3.3 Heat Age. Fourteen (14) days at 82 °C (180 °F) plus removability. No discoloration or cracking or paint film. No transfer of film adhesive to vehicle paint system.

3.3.4 Spotting Resistance. There shall be no detrimental effects on the paint finish under the film from any of the spotting solutions at 60 °C (140 °F). At other temperatures, performance should equal or better than the control coating. Apply drops of the solutions to the test panels. Check removability and spotting resistance under the following conditions:

- 24 h at room temperature.
- 2 h or until drops are dry at 82 °C (180 °F).
- 2 h or until drops are dry at 71 °C (160 °F).

Note: Conditions at elevated temperatures for maximum of 7 h. Allow 24 h recovery prior to removing coating.

Solutions:

- 3 pH acid rain per GMW16625
- 4 pH acid rain per GMW16625
- Tap water
- Egg albumin, 2% by weight in deionized water

3.3.5 Rust Resistance. Iron filings/powder, 150 mesh to 200 mesh, 99.5% purity, such as J.T. Baker 2226 or agreed upon equivalent:

- Apply the iron filings/powder over white panels approximately 1.2 mL (¼ teaspoon) per 100 mm × 300 mm panel.